

**Commercial Customs Operations Advisory Committee (COAC)
Next Generation Facilitation Subcommittee
Emerging Technologies Work Group**

December 2019



**U.S. Customs and
Border Protection**



Office of Trade/Trade Transformation Office
Business Transformation & Innovation Division
November 13, 2019

Action Required: Informational

Background:

- Blockchain is a relatively new technology, perhaps made most famous by Bitcoin. Several large corporations have their own form of blockchain software that is open source. Private industry has been investing in this technology to enhance supply chains and modernize antiquated processes.
- Blockchain's main benefits center around trust, decentralization, and group awareness. The government's role in blockchain will be predicated upon understanding these principles and applying them to a law enforcement system.
- The aim of utilizing blockchain technology for CBP is to improve the processing of trade-related documents by hosting information about trade transactions on a decentralized, tamper-proof distributed ledger system, which can be authenticated and accessed by various stakeholders.
- One proof of concept (POC) has been completed so far by CBP's Office of Trade, Trade Transformation Office, (TTO), Business Transformation and Innovation Division (BTID). BTID began developing the blockchain POC during the summer of 2017, in conjunction with trade partners serving on the Commercial Customs Operations Advisory Committee (COAC).

Issue:

- In September 2018, CBP conducted the North American Free Trade Agreement/Central America Free Trade Agreement (NAFTA/CAFTA) POC, which tested the application of blockchain technology to the entry summary submission process for NAFTA/CAFTA entries.
- The POC was a joint effort spearheaded by CBP, Department of Homeland Security (DHS), and private sector organizations. Participants included CBP auditors, import and entry specialists, CBP legal and policy personnel, importers, technology companies, and suppliers.
- The POC specifically tested the feasibility of blockchain technology for receiving certificate of origin (CO) data, and conducting free trade agreement (FTA) origin verifications.

Current Status:

- An assessment of the technology, along with the policy and legal issues raised by the POC, was conducted following the test. The assessment found that use of the blockchain achieved almost instantaneous communications between CBP and trade stakeholders, improved information receipt, and expedited processing for CBP. Other benefits included:
 - Eliminated manual documentation requirements and duplicative data entry;
 - Presented potential issues early on in the trade transaction/entry process;
 - Received full data (CO, entity data, etc.) with initial submission of entry summary;
 - Enhanced targeting;
 - Easier access to importer/more direct communication; and
 - Easier access to back-up documentation when required.
- Building on the first successful test regarding Free Trade Agreements, CBP successfully concluded its live fire exercise utilizing Blockchain technology for Intellectual Property Rights (IPR) facilitation and

security on September 26, 2019. The test used innovative practices to identify entities (Legal Entity Identifier [LEI]) and products (a globally unique product identifier). The test tied Rights Holders and their associated licensing entities to the entry data in order to facilitate shipments into the United States – resulting in more import security and efficiency. CBP Specialists were able to have images and product guides at the time of their decision making which allowed for better decisions. CBP is currently assessing the veracity and business potential for facilitation and security.

- A major outcome of the test came from working with the trade community to identify the three associated licensing entities (Importer, Manufacturer and Retailer). Utilizing Verifiable Credentials, CBP proved that the Rights Holder could authenticate the proper party for legitimate goods.
- The trade community provided product (GTIN) information at the line level to help inform CBP operators of the product as it related to the license. CBP proved the potential for consumers to use the system to help identify protected goods and their legitimacy as well by creating a pathway for the public to interact with private companies using mobile technology.

Next Steps:

- Similar to the review of the first test, a 360-degree assessment looking at policy, operations, and legal and technical aspects of the Blockchain technology will be conducted following the test.
- In a subsequent test for 2020, CBP’s Business Transformation and Innovation Division will look at the value of mixed reality to facilitate examination and training processes.

Submitted by: Vincent Annunziato

Date: Wednesday, November 27, 2019